

Section 3

FACILITIES ASSESSMENT

EXISTING PARK FACILITIES CLASSIFICATION & DESCRIPTION

The City of Grinnell has 11 park facilities, with a total of 142.8 acres of parkland. Park facilities range in size from Waterworks Park, which is 0.6 acres, to Arbor Lake Park, which is 81.4 acres. Locations of all existing park facilities are shown on the following page in *Figure 3.1: Existing Park Facilities*.

NRPA Park Classifications

The National Recreation and Park Association (NRPA) has developed a classification system to serve as a guide for community park and recreation planning. The system defines and describes several categories of parks, recreation areas, and open spaces that in combination make up a unified municipal park network (*Park, Recreation, Open Space and Greenway Guideline*, NRPA, 1995). The NRPA supports and encourages local modifications of their standards and definitions. The following definitions are based on the NRPA guidelines.

Mini-Parks. Address limited, isolated, or specialized recreational needs at small sites in heavily developed areas and at sites with unique recreational opportunities. These parks serve the immediate neighborhood.

Neighborhood Parks. Serve as the recreational focus of the neighborhood, offer a balance of active and passive recreation activities to neighborhood residents, and provide facilities within walking distance of their homes.

Community Parks. Provide for active and passive recreational needs of several neighborhoods on a thirty to fifty acre site that is easily accessible by automobile or public transit. This category allows for group activities and other recreational opportunities not feasible at the neighborhood park level.

Large Urban Parks. Provide for active and passive recreational needs of the entire community by preserving large open spaces, usually greater than fifty acres, that can accommodate recreational activities not feasible within smaller park classifications and are easily accessible by automobile or public transit. (Grinnell has no parks in this classification.)

School-Parks. Provide for efficient and cost effective park and recreational facilities by combining school district and municipal resources at a single site so both public agencies benefit by sharing the use of land and facilities.

Special Use Facilities. Provide for recreational, cultural, and/or educational activity focused on a single purpose use and easily accessed from anywhere in the community.

Natural Resource Areas. Provide for the preservation and utilization of significant natural resources and/or land formations for trails and other passive recreational uses and educational benefits.

Sports Complexes. Consolidates heavily programmed athletic facilities and associated fields at larger and fewer sites strategically located throughout the community. Grinnell does not have any public parks in this classification, although privately-owned Ahrens Park serves as the city's Sports Complex.

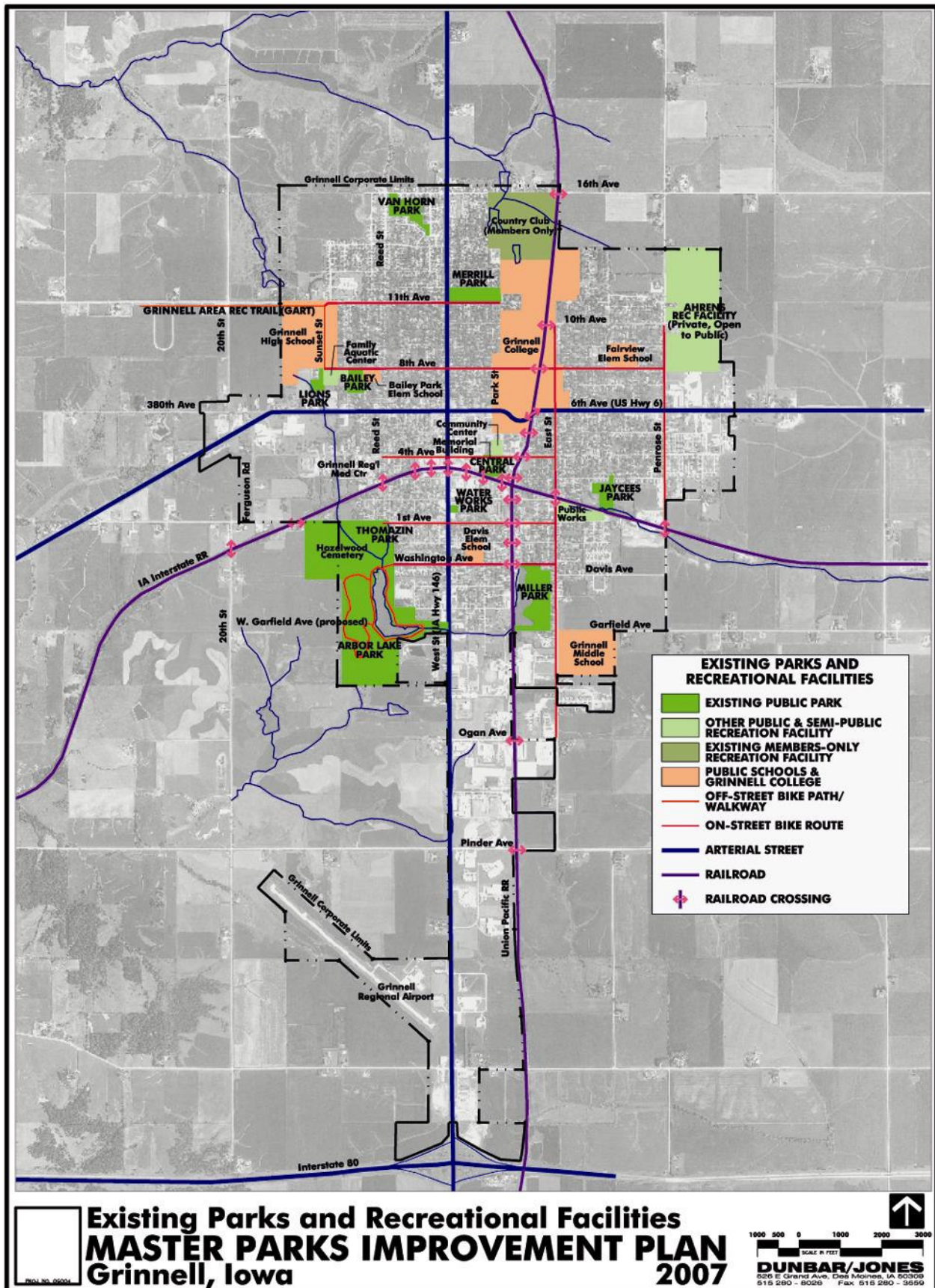


Figure 3.1: Existing Park Facilities

Greenways/Trails. Uses natural resource areas, such as waterways, and man-made areas, such as railroad, utility, and parkway corridors, to tie park system components together, forming a cohesive park environment. Serves as location for street-separated recreation trails.

Grinnell Park Classification Adaptations

The NRPA supports and encourages communities to adapt its standards and definitions to meet local needs and circumstances. In the case of Grinnell -- a relatively small, self-contained community -- the NRPA guidelines can be modified to combine park functions and reduce the number of classifications. For the *Grinnell Master Parks Improvement Plan* the following modifications to NRPA guidelines have been made:

- The “Mini-Park” category has been eliminated. Most of Grinnell’s housing is -- and is likely to remain -- single-family detached. Also, in Grinnell multi-family housing developments are located on relatively spacious sites that have generous amounts of open space. Because each single-family residential property and each cluster of multi-family housing is in effect a mini-park, there is no need for that category. Waterworks Park, currently the city’s only mini-park, is defined as a “Special Use Facility.”
- The “Large Urban Park” category has been eliminated. Because Grinnell is unlikely to become a large urban area, it has no need for that category.
- “Sports Complex” has been incorporated into “Community Park.” The city’s only sports complex is privately-owned Ahrens Park, which is not included in condition and capacity summaries. Its facilities are open to the public, however, and so have been included in the recreational facilities tallies.

Likewise, in a city the size of Grinnell parks can and should serve multiple purposes, and Grinnell has two parks that do so. Central and Miller parks (especially Central) serve the entire city as community parks, but both also function as neighborhood parks for their immediate surrounding areas. Although the much larger of the two, Miller in fact assumes a smaller role as a community park than does Central, which is the location for several community-wide events.

Figure 3.2 below lists the parks in the existing system, including classification and acreage.

NEIGHBORHOOD PARKS	Acreage	NATURAL RESOURCE AREA	Acreage
Bailey Park	4.0	Arbor Lake Park	81.4
Jaycees Park	5.2	<i>Total Natural Resource Areas Acreage</i>	<i>6.5</i>
Merrill Park	8.7	SPECIAL USE FACILITIES	Acreage
Thomazin Park	2.7	Grinnell Outdoor Pool	3.3
Van Horn Park	8.2	Lions Park	2.6
<i>Total Neighborhood Parks Acreage</i>	<i>28.8</i>	Waterworks Park	0.6
COMMUNITY PARKS	Acreage	<i>Total Special Use Facilities Acreage</i>	<i>6.5</i>
Central Park*	3.8	Total Existing Park System Acreage	142.8
Miller Park*	22.3	<i>*Central and Miller Parks also serve as Neighborhood Parks</i>	
<i>Total Community Parks Acreage</i>	<i>26.1</i>		

Figure 3.2: Existing Park Facilities - Classification and Acreage

Facilities Inventory and Assessment

An assessment of existing park facilities was conducted in the spring and summer of 2006. A Condition and Capacity Report for each facility was prepared and includes the following information:

- Classification
- Location
- Total Acres
- Park Vicinity Map
- Park Aerial Photo
- Park Site Photos
- Condition and Capacity Ratings (for individual features and overall)
- Comments: includes list of play equipment, park description, and tree inventory information

Park facilities were classified according to the primary function they serve for the community. These classifications represent how each park currently fits into the system. Two Grinnell parks, (Central and Miller) function as both Community and Neighborhood parks. Because they serve primarily as Community Parks, and their acreage is included in that classification.

Condition and Capacity Ratings

During the inventory and analysis process, each park was rated according to its condition and capacity. The condition of the park is a subjective analysis of the landscape and physical components based on fifteen reporting factors. The factors are generally weighted according to the significance of any particular reporting factor in relation to the others. For example, primary facilities (or lack of the same) such as restrooms, play equipment, or open play areas receive more weight than amenities such as kiosks or bike racks to determine an overall rating. The condition was rated "poor," "fair," or "good" for each of the fifteen reporting factors and also for the park overall. The capacity rating reflects the ability of a park facility to receive or absorb users to the quantitative and qualitative extent intended by its classification. The capacity was rated "under," "at," or "over" for each of the fifteen reporting factors and also for the park overall.

The condition and capacity ratings were based on the following fifteen reporting factors:

1. Developed Area Vegetation: Turf, trees, shrubs, and planting beds in areas of the park requiring frequent mowing or other high levels of maintenance.
2. Undeveloped Area Vegetation: Trees, shrubs, and herbaceous plant materials in "natural" areas of the park where vegetation does not receive frequent maintenance.
3. Open Play Area: Minimum of one acre of treeless turf for multi-use play at a slope not to exceed 4%, having a shape that can accommodate an informal ball diamond and/or rectangular soccer/football field. The area may include a backstop but would not have a foul line or outfield fence or support facilities such as dugouts, bleachers, field lighting, etc. (Bailey Park's open area west of the shelter does not meet the size requirement, but according to the Recreation Director is frequently used for informal soccer practice and so was included in the tally.)

4. **Sports Field:** This category includes the following three types of highly developed, outdoor facilities for "team sports" and accompanying facilities on City-owned property that enhance both spectator and active use according to accepted rules of play:
 - 60' Softball Field: skinned infield, regulation backstop, outfield/foul line fence, dugouts
 - 90' Baseball Field: grass infield, regulation backstop, outfield/foul line fence, dugouts
 - Soccer Field: regulation goal posts, lined fields
5. **Sports Court:** An uncovered, paved facility for a single intended use, e.g. a tennis court.
6. **Play Equipment:** Unenclosed area, should have separate areas for preschool age children and school age children. Play equipment and ground surface should conform to American Society for Testing and Materials (ASTM F 1487-98) and Americans with Disabilities Act requirements.
7. **Walk or Trail:** Includes, but is not limited to walking, jogging, bicycling, and/or interpretive trails built to be safe and requiring minimum maintenance. Construction materials may be concrete, asphalt, crushed rock, or wood chips.
8. **Picnic Facilities:** Picnic shelters, tables, and grills.
9. **Structures:** Architectural facilities. Examples include bridges, gazebos, and buildings.
10. **Drinking Water:** Availability of drinking fountains and water spigots at convenient locations in the park.
11. **Restrooms:** A durable and efficiently designed structure that meets ADA standards and can function as a singular, unisex unit, or multiple units within one building and usually found at neighborhood or larger parks.
12. **Parking:** A paved area usually found at the neighborhood park level (at a minimum) and complies with the City's appropriate zoning laws and policy issues dealing with design and stormwater requirements.
13. **Lighting:** Can be an important security/safety element within all classifications. Luminaires should be adequately spaced and sized and not conflict with adjacent residents. Lights should be made of quality, durable materials.
14. **Signage:** Park identification sign posted near public entrances; informational signs posted near specific park facilities/amenities.
15. **Miscellaneous Amenities:** Park elements that provide additional support components to increase the usability, attractiveness, and functionality of the park. Includes features such as signs, benches, kiosks, bike racks, public telephones, etc.

Condition and Capacity Reports

The following descriptions from the Condition and Capacity Reports summarize the existing conditions of the Grinnell park and recreation facilities. A comprehensive summary of condition and capacity ratings is provided for each park classification. The individual Condition and Capacity Reports can be found in *Appendix A* of this report. An inventory of outdoor recreational facilities in Grinnell available to the general public at public schools and other locations was also conducted, although condition and capacity reports were not prepared.

Neighborhood Parks. Grinnell has five neighborhood parks. In addition, two community parks, Central and Miller, also function as neighborhood parks. *Figure 3.3: Condition and Capacity Ratings for Neighborhood Parks* shows a summary of the condition and capacity ratings.

NEIGHBORHOOD PARK	Acreage	Park Condition	Park Capacity
Bailey Park	4.0	Fair	Under
Jaycees Park	5.2	Fair	Under
Merrill Park	8.7	Good	At
Thomazin Park	2.7	Good	Under
Van Horn Park	8.2	Good	Under
Total Neighborhood Park Acreage	28.8		
Condition Ratings by Acreage	Number	Acreage	Rating
Good	3	19.6	68%
Fair	2	9.2	32%
Poor	0	0.0	0%
Capacity Ratings by Acreage	Number	Acreage	Rating
At	1	8.7	30%
Under	4	20.1	70%
Over	0	0	0%

Figure 3.3: Condition and Capacity Ratings for Neighborhood Parks

Community Parks. The primary purpose of Grinnell's two community parks, Central Park and Miller Park, is to serve the entire community, but each currently doubles as a neighborhood park. Because both are community parks, however, a stand-alone summary of the condition and capacity ratings was completed and appears below as *Figure 3.4: Condition and Capacity Ratings for Community Parks*. Ahrens Park, a privately-owned sports complex, effectively functions in Grinnell as a community park. Because it is not publicly owned, however, it is not included in the community parks condition and capacity ratings.

COMMUNITY PARKS	Acreage	Park Condition	Park Capacity
Central Park*	3.8	Good	At
Miller Park*	22.3	Fair	Under
Total Community Park Acreage	26.1		
Condition Ratings by Acreage	Number	Acreage	Rating
Good	1	3.8	15%
Fair	1	22.3	85%
Poor	0	0	0%
Capacity Ratings by Acreage	Number	Acreage	Rating
At	1	3.8	15%
Under	1	22.3	85%
Over	0	0	0%
* Central and Miller Parks also serve as Neighborhood Parks.			

Figure 3.4: Condition and Capacity Ratings for Community Parks

Sports Complexes. Grinnell does not have a City-owned sports complex. Ahrens Park, operated by the Ahrens Foundation, is a private sports complex open to the public. The facilities at Ahrens Park are included in the inventory of outdoor recreation facilities in Grinnell available to the public, but a Condition and Capacity report was not prepared. Moreover, as

discussed earlier, the Grinnell Master Parks Improvement Plan incorporates the sports complex category into the community park category.

Special Use Areas. Grinnell has three special use areas, the Outdoor Pool site, Lions Park, and Waterworks Park. Because the outdoor pool is due to be replaced soon by a family aquatic center, a Condition and Capacity report was not prepared. The new aquatic center's size was used in facility calculations, but condition and capacity ratings are summarized only for Lions Park and Waterworks Park. See Figure 3.5: Condition and Capacity Ratings for Special Use Areas.

SPECIAL USE AREAS	Acreage	Park Condition	Park Capacity
Lions Park	2.6	Fair	Under
Waterworks Park	0.6	Fair	Under
Outdoor Pool Site *	3.3	not rated	not rated
Total Special Use Area* Acreage	6.5		
Condition Ratings by Acreage*	Number	Acreage	Rating
Good	0	0	0%
Fair	2	3.2	100%
Poor	0	0	0%
Capacity Ratings by Acreage*	Number	Acreage	Rating
At	0	0	0%
Under	2	3.2	100%
Over	0	0	0%
* Outdoor Pool site is included in Total Special Use Area Acreage, but Condition/Capacity is not rated.			

Figure 3.5: Condition and Capacity Ratings for Special Use Areas

Natural Resource Area. Arbor Lake Park is Grinnell's only natural resource area. Figure 3.6: Condition and Capacity Ratings for Natural Resource Areas is a summary of Arbor Lake Park's condition and capacity ratings.

NATURAL RESOURCE AREA	Acreage	Park Condition	Park Capacity
Arbor Lake Park	81.4	Fair	Under
Total Natural Resource Area Acreage	81.4		
Condition Ratings by Acreage	Number	Acreage	Rating
Good	0	0	0%
Fair	1	81.4	100%
Poor	0	0	0%
Capacity Ratings by Acreage	Number	Acreage	Rating
At	0	0	0%
Under	1	81.4	100%
Over	0	0	0%

Figure 3.6: Condition and Capacity Ratings for Natural Resource Areas

Other Community and School District Facilities. Outdoor recreation facilities at five public schools, Ahrens Park, and Grinnell College were inventoried. Schools inventoried are Grinnell High School; Grinnell Middle School; and Davis, Fairview, and Bailey Park Elementary Schools. The only facilities at Grinnell College included in the inventory are those available for use by the general public.

PARK FACILITIES CONDITION AND CAPACITY ANALYSIS

The park facilities analysis was conducted to gain a better understanding of the existing Grinnell park and system and to develop community based guidelines.

Overall Condition and Capacity Ratings

The overall condition and capacity ratings show the total number of parks and total acreage for each condition rating of "good," "fair," and "poor" and for each capacity rating of "at," "under," and "over."

Of the 10 parks in the Grinnell park system that were rated (the Outdoor Pool site was not rated), four parks rated in "good" condition, six parks rated in "fair" condition, and no parks rated in "poor" condition. Of the 139.5 acres of park land in the system that were rated, 17% or 23.4 acres rated in "good" condition and 83% or 116.1 acres rated in "fair" condition.

Two of the 10 parks in the system rated "at" capacity, eight rated "under" capacity, and none rated "over" capacity. Of the 139.5 acres of park land in the system that were rated, 9% or 13.1 acres rated "at" capacity, 91% or 126.4 acres rated "under" capacity, and none rated "over" capacity.

Overall Condition Rating of Parks	Number of Parks	Total Acreage*	Rating % by Acreage
Good	4	23.4	17%
Fair	6	116.1	83%
Poor	0	0.0	0%
Total All Parks	10	139.5	100%
Overall Capacity Rating of Parks	Number of Parks	Total Acreage*	Rating % by Acreage
At	2	13.1	9%
Under	8	126.4	91%
Over	0	0.0	0%
Total All Parks	10	139.5	100%
* Outdoor Pool site was not rated or included in Total All Parks Acreage.			

Figure 3.7: Overall Condition and Capacity Ratings

Park Size

Grinnell has five neighborhood parks, ranging in size from 2.6 to 8.7 acres. The average neighborhood park size is 5.8 acres. Grinnell's two community parks, Central Park and Miller Park, are 3.8 acres and 22.3 acres respectively, for an average of 13.1 acres. Grinnell's sports complex, privately-owned Ahrens Park, is 76.2 acres. Grinnell's three special use areas range in size from 0.6 to 3.3 acres, averaging 2.2 acres. Arbor Lake Park, with 81.4 acres, is Grinnell's only natural resource area.

Service Area

The service area for neighborhood parks in Grinnell is a ½ mile radius. Neighborhood parks are easily accessible by either walking or driving. Community parks in Grinnell have a one mile radius service area and serve more than one neighborhood. Natural resource parks, greenways/trails and special use facilities serve the entire community, and so service areas do

not pertain. *Figure 3.9: Existing Park Service Areas* on the following page shows the service area for Grinnell's existing neighborhood parks and community parks, including Ahrens Park, a privately-owned sports complex that functions as a community park. Neighborhood and community park service areas are shown for Central and Miller Parks because they function in both capacities.

Neighborhood Parks. Figure 3.9 shows that most of Grinnell's existing residential areas are within the service areas of existing neighborhood parks or the two community parks that double as neighborhood parks. Residential areas are shown in yellow in Figure 3.9, and are as shown on the 2004 Grinnell Comprehensive Plan. The largest existing residential area not served by a city-owned neighborhood park is in the northeast quadrant of the city in the vicinity of Fairview Elementary School. Other yellow areas visible at the south and west fringes of the city, and thus not within park service areas, are as yet undeveloped but expected to develop in the near future. A few areas actually within the neighborhood park service radii are not shaded because they are separated from a nearby park by a busy street or a railroad right-of-way.

Level of Service

The City of Grinnell's existing level of service for each park classification is shown in the following table. The level of service calculations are based on the number of park acres per 1,000 residents. The 2005 population used for the existing level of service calculations is 9,332. All park and recreation facilities have been included in the table to show individual levels of service and the overall level of service for the City.

"Existing-Functional" Classification	Total Acres	Existing LOS
		(Using 2005 Census Population) Acres/1000
Neighborhood Parks	28.8	3.1
Community Parks	26.1	2.8
Subtotal	54.9	5.9
Sports Complexes	0.0	0.0
Special Use Facilities	6.5	0.7
Natural Resource Areas	81.4	8.8
Total	142.8	15.4

Figure 3.8: Existing Level of Service in Grinnell

Summary of Park Facilities Analysis

The park facilities analysis was conducted to better understand the existing Grinnell park and recreation system and to assist in developing community based guidelines. Of all parks in the existing system, 17% rated in "good" condition, 83% rated "fair," and none rated "poor." Nine percent of all parks were rated "at" capacity, 91% "under" capacity, and none "over" capacity. The park size, service area, level of service, and surplus and deficit analysis examined the existing situation in Grinnell. Parks range in size from 0.6 acres to 81.4 acres. The service area for neighborhood parks is a ½ mile radius, and for community parks is a 1 mile radius. The combined level of service for neighborhood parks, and community parks is 5.9 acres per 1,000 residents.

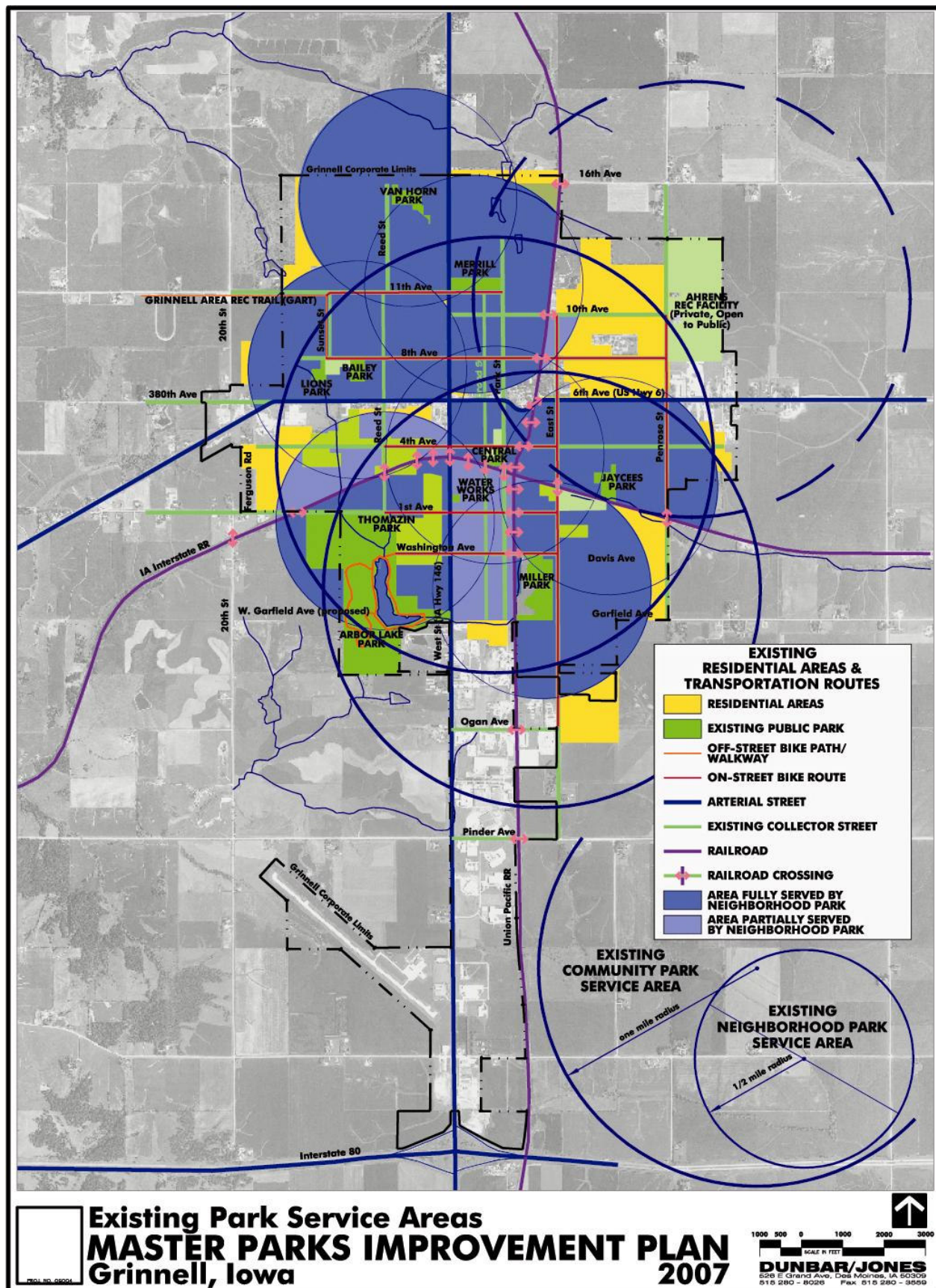


Figure 3.9: Existing Park Service Areas

RECREATION FACILITIES ANALYSIS

Recreation Facilities Guidelines

NRPA recreation facilities standards/guidelines are based on population. *Figure 3.10: Grinnell Facilities Inventory and Projected Surpluses/Shortages* summarizes the standards/guidelines and current inventory of Grinnell outdoor recreation facilities, and projects recreation facility surpluses and shortages through 2020 based on Grinnell's expected population growth.

Grinnell Parks and Recreation Facilities Open To The General Public									
						Current and Projected Needs: Surplus (Shortage)			
						2005 Population: 9,332		2020 Population: 10,647	
Parks & Recreation Facilities	Standard / Guideline:	Parks & Rec	Public Schools	Other Rec Use	Total	Current Need	Surplus (Shortage)	Projected Need	Surplus (Shortage)
	(Based on Population unless noted otherwise)								
Grinnell Outdoor Athletic Facilities									
Badminton Courts	1 per 5,000	0	0	0	0	2	(2)	2	(2)
Baseball Diamonds-Formal [A]	1 per 5,000	0	1	1	2	2	0	2	(0)
--Lighted [B]	1 per 30,000	0	1	1	2	0	2	0	2
Basketball Courts [C]	1 per 5,000	1	6	4	11	2	9	2	9
Field Hockey	1 per 30,000	0	0	0	0	0	(0)	0	(0)
Football/Rugby	1 per 20,000	0	2	0	2	0	2	1	1
Golf: 9-Hole Par 3	1 per 12,500	0	0	0	0	1	(1)	1	(1)
Golf: 9-Hole Standard	1 per 30,000	0	0	0	0	0	(0)	0	(0)
Golf: 18-Hole Standard	1 per 20,000	0	0	0	0	0	(0)	1	(1)
Golf: Driving Range	25 tees per 30,000	0	0	10	10	8	2	9	1
Golf: Putting Green	1 per 10,000	0	0	0	0	1	(1)	1	(1)
Handball/Racquetball Courts	1 per 20,000	0	0	0	0	0	(0)	1	(1)
Horseshoe Court	1 per 2,000	0	0	0	0	5	(5)	5	(5)
Ice Hockey Rinks	1 per 20,000	0	0	0	0	0	(0)	1	(1)
Running Track: 400 m.	1 per 20,000	0	2	0	2	0	2	1	1
Shuffleboard	1 per 2,000	0	0	0	0	5	(5)	5	(5)
Soccer [D]	1 per 10,000	0	3	4	7	1	6	1	6
Softball Diamonds-Formal [E]	1 per 2,500	1	2	7	10	4	6	4	6
--Lighted [F]	1 per 30,000	1	2	5	8	0	8	0	8
Swimming Pool/Aquatic Center *	1,166 sf per 1,000	14,750	0	0	14,750	10,881	6,369	12,414	4,836
Tennis Courts	6 per 10,000	0	8	8	16	6	10	6	10
Trails: Hard Surface Walking [G]	.26 mi. per 1,000	0.0	0.0	1.5	1.5	2.4	(0.9)	2.8	(1.3)
Trails: Hard Surface Multi-use [H]	.51 mi. per 1,000	0.0	0.0	7.0	7.0	4.8	2.2	5.4	1.6
Trails: Soft Surface Hiking [I]	.38 mi. per 1,000	1.8	0.0	0.5	2.3	3.5	(1.2)	4.0	(1.7)
Volleyball Courts	1 per 3,000	0	0	2	2	3	(1)	4	(2)
Wading Pool	1 per 5,000	0	0	0	0	2	(2)	2	(2)
Grinnell Park Facilities									
Drinking Fountain, facilities w/ at least 1	1 per Park/School [J]	5	2	1	8	16	(8)	21	(13)
Play Equipment, facilities w/ at least 1 set	1 per NH Pk/Comm Pk/Elem Sch [K]	9	3	1	13	11 [O]	0	16 [O]	(5)
Playfields, facilities w/ at least 1	1 per NH Pk/Comm Pk/Elem Sch [L]	8	4	2	14	13 [O]	0	18 [O]	(5)
Restrooms, facilities w/ at least 1	1 set per Park [M]	5	2	1	8	13	(5)	18	(10)
Shelters, facilities w/ at least 1	1/park or 1/3,000 [N]	7	0	1	8	11	(3)	16	(8)
Picnic Tables	8 per 1,000	64	4	20	88	75	15	85	3
Regional Park Facilities									
Archery Range	1 per 50,000	0	0	0	0	0	(0)	0	(0)
Skeet/Trap Field	1 per 50,000	0	0	0	0	0	(0)	1	(1)
Camping Sites--Regional	3.1 per 1,000	0	0	0	0	29	(29)	33	(33)
Swimming Beach--Regional	As Feasible	0	0	0	0	-	-	-	-
Notes:									
A. 90' baselines, turf infields		I. Arbor Lake Park, Grinnell College soccer fields							
B. Grinnell High School; Ahrens Park		J. Arbor Lake, Central, Merrill, Miller parks; Outdoor Pool; Grinnell Middle & High Schools; Ahrens Park							
C. Includes full and half courts		K. Arbor Lake, Bailey, Central, Jaycees, Lions, Merrill, Miller, Thomazin, Van Horn parks; Davis & Fairview Elem Schools, Grinnell Middle School; Ahrens Park							
D. Other: Ahrens Park		L. Bailey, Central, Jaycees, Lions, Merrill, Miller, Thomazin, Van Horn parks; Davis & Fairview Elem Schools; Grinnell Middle & High Schools; Ahrens Park; Grinnell College							
E. 60' baselines; skinned infields		M. Arbor Lake, Bailey, Central, Merrill, Miller, Outdoor Pool; Grinnell Middle & High Schools; Ahrens Park							
F. Merrill Park; Grinnell Middle & High Schools; Ahrens Park		N. Arbor Lake, Bailey, Central, Jaycees, Lions, Merrill, Miller parks; Ahrens Park							
G. Ahrens Park		O. Bailey Elem School uses Bailey Park play equipment and playfield							
H. Grinnell Area Rec Trail									

Figure 3.10: Grinnell Facilities Inventory and Projected Surpluses/Shortages

GRINNELL PARKS TREE INVENTORY

Three Grinnell residents are inventorying the trees in each city park. The process began in late 2004 and is ongoing. Most parks have been completed or are nearly complete. The inventory as of April 2006 is shown in Figure 3.11. The severe February 2007 ice storm likely caused numerous changes to the inventory. Information collected for each tree includes details about species, location, size, condition, and maintenance. The inventory has the capability of functioning as a valuable park management and maintenance tool if the information is relatively complete and is updated at regular intervals.

The condition and capacity report for each park has a summary of the information derived from the tree inventory for the trees in that particular park (see following page).

Grinnell Parks Tree Inventory					
Total Number of Trees by Species, Inventoried November 2004-April 2006					
Botanic Name	Common Name	Count	Botanic Name	Common Name	Count
Abies balsamea	Balsam Fir	6	Picea abies	Norway Spruce	27
Abies concolor	White Fir	10	Picea glauca	White Spruce	3
Acer negundo	Boxelder	10	Picea pungens	Blue Spruce	38
Acer platanoides	Norway Maple	71	Pinus nigra	Austrian Pine	47
Acer rubrum	Red Maple	16	Pinus ponderosa	Ponderosa Pine	5
Acer saccharinum	Silver Maple	20	Pinus strobus	White Pine	12
Acer saccharum	Sugar Maple	44	Pinus sylvestris	Scotch Pine	37
Acer tataricum	Tatarian Maple	4	Platanus occidentalis	Sycamore	16
Aesculus glabra	Ohio Buckeye	1	Populus deltoides	Cottonwood	7
Aesculus hippocastanum	Horsechestnut	1	Prunus serotina	Black Cherry	8
Ailanthus altissima	Tree-of-Heaven	3	Prunus sp	Plum	2
Amelanchier sp.	Serviceberry	3	Pseudotsuga menzeisii	Douglas Fir	25
Betula nigra	River Birch	11	Pyrus communis	Common Pear	1
Betula pendula	European White Birch	1	Quercus alba	White Oak	2
Carya ovata	Shagbark Hickory	2	Quercus bicolor	Swamp White Oak	12
Castanea mollis	Chinese Chestnut	7	Quercus macrocarpa	Bur Oak	7
Catalpa sp	Catalpa	7	Quercus palustris	Pin Oak	38
Celtis occidentalis	Common Hackberry	34	Quercus rubra	Northern Red Oak	25
Crataegus sp	Hawthorn	1	Quercus sp	Oak	4
Fraxinus sp	? Ash	2	Robinia pseudoacacia	Black Locust	3
Fraxinus americana	White Ash	4	Salix sp	Willow	1
Fraxinus pennsylvanica	Green Ash	86	Syringa sp	Lilac	5
Ginkgo biloba	Ginkgo	2	Taxodium distichum	Bald Cypress	1
Gleditsia triacanthos	Common Honeylocust	29	Taxus sp	Yew	3
Juglans nigra	Black Walnut	2	Thuja occidentalis	Arborvitae	42
Juniperus cf communis	Common Juniper	6	Tilia americana	American Linden	41
Juniperus virginiana	Eastern Redcedar	4	Tilia ovata	Linden	1
Liriodendron tulipifera	Tuliptree	1	Tsuga canadensis	Eastern Hemlock	1
Magnolia sp	Magnolia	1	Ulmus americana	American Elm	3
Malus communis	Common Apple	1	Ulmus pumila	Siberian Elm	21
Malus sp	Flowering Crabapple	76	Ulmus rubra	Slippery Elm	4
Morus alba	White Mulberry	4	Zelkova serrata	Japanese Zelkova	1
Ostrya virginiana	Hophornbeam	1	Unknown		4
Picea sp	Spruce	1	Total Trees Inventoried		919

Figure 3.11: Total Number of Trees by Species, Inventoried November 2004-April 2006

Information Derived from the Grinnell Parks Tree Inventory

Total number of trees inventoried as of April 2006: 919

While the inventory is mostly complete according to inventory volunteer Larissa Mottl, several trees have not yet been rated for condition or maintenance. Additionally, the Arbor Lake Park inventory was performed only for developed areas of the park in the vicinity of the shelter and play equipment.

Native to Iowa/ North America: 47% (431) native to Iowa; 64% (589) native to North America

This information is not explicitly included in the inventory.

Susceptibility of park trees to common diseases: High 22% (206), Moderate 17% (154), Low 60% (556), Unknown 0.4% (4)

- Species highly susceptible to disease include Green and White Ash, Austrian and Scotch Pine, and American, Slippery, And Siberian Elm.
- Species moderately susceptible to disease include Crabapple, Apple, Pear, White and Pin Oak, and Red Maple.
- Nearly 40 percent of the trees inventoried are highly or moderately susceptible to diseases. This could have a significant bearing on budgeting for park tree removal and replacement.

Tree condition: Condition of park trees: Excellent 25% (227), Very Good 24% (218), Good 23% (211), Fair 14% (125), Poor 2% (4) Unrated or dead 8% (77)* Remove: 5% (45)

“Tree condition” is a subjective rating based on observation of mower blight, storm damage, dead limbs, hollow trunk, severe trunk scars, exposed roots, and trunk rot.

Maintenance level of park trees as indicated by mower blight: Excellent or unrated 56% (516), Good 26% (242), Fair 7% (65), Poor 11% (97)

“Mower blight” is defined as damage to the base of the tree trunk or roots caused by mowers. It was used as an indicator of the maintenance level and needs for each tree.

ARBOR LAKE WATERSHED VISIONING PLAN

The Arbor Lake Watershed Visioning Plan was undertaken in 2000 to preserve and improve water quality in Arbor Lake. Project partners were the City of Grinnell, Poweshiek Soil and Water conservation district, Grinnell 2000, Grinnell/Newburg Public School system, USDA Natural Resource Conservation Service, Iowa Valley Resource Conservation and Development, and Grinnell College.

The Arbor Lake watershed encompasses approximately 1,069 acres in the City of Grinnell and Grant Township in Poweshiek County. The watershed is 71 percent urban landscape (759 acres), 26 percent farmland (278 acres), and 3 percent other land cover categories such as woodlands, roads, and ditches (32 acres). *Figure 3.12: Arbor Lake Watershed* shows the watershed area. The watershed includes Grinnell's two recreational lakes, Arbor Lake and Lake Nyanza, as well as several potential greenways along streams flowing into Arbor Lake.

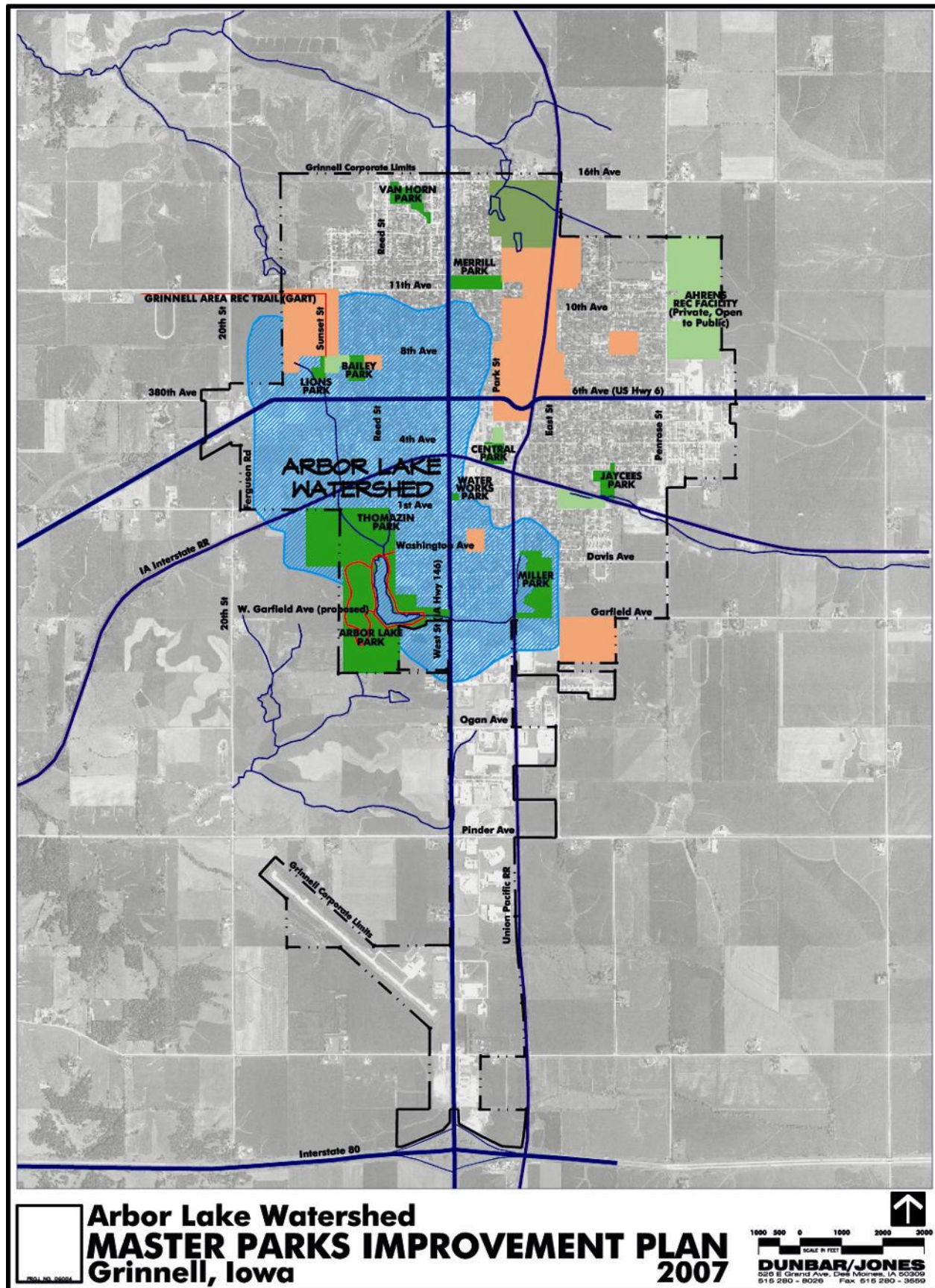


Figure 3.12: Arbor Lake Watershed